PERGAMON

Journal of Quantitative Spectroscopy & Radiative Transfer 68 (2001) III–VI

Journal of Quantitative Spectroscopy & Radiative Transfer

www.elsevier.com/locate/jqsrt

List of Contents

NUMBER 1

V.M. Devi, D.C. Benner, M.A.H. Smith and **C.P. Rinsland** — 1 Measurements of air-broadened width and air-induced shift coefficients and line mixing in the ν_6 band of $^{12}CH_3D$

A.I. Lyapustin and **T.Z. Muldashev** — 43 Solution for atmospheric optical transfer function using spherical harmonics method

S. Platnick — 57 A superposition technique for deriving mean photon scattering statistics in plane-parallel cloudy atmospheres

S. Platnick — 75 Approximations for horizontal photon transport in cloud remote sensing problems

J.P. Holloway, S. Shannon, S.M. Sepke and **M.L. Brake** — 101 A reconstruction algorithm for a spatially resolved plasma optical emission spectroscopy sensor

NUMBER 2

D. Pieroni, J.-M. Hartmann, C. Camy-Peyret, P. Jeseck and **S. Payan** — 117 Influence of line mixing on absorption by CH_4 in atmospheric balloon-borne spectra near 3.3 μm

V.M. Devi, D.C. Benner, M.A.H. Smith and **C.P. Rinsland** — 135 Measurements of air broadened width and air induced shift coefficients and line mixing in the ν_5 band of $^{12}CH_3D$

M. Dhib, J.-P. Bouanich, H. Aroui and **A. Picard-Bersellini** — 163 Analysis of N_2, O_2, CO_2, and air broadening of infrared spectral lines in the ν_4 band of NH_3

A.F. Ruckstuhl, M.P. Jacobson, R.W. Field and **J.A. Dodd** — 179 Baseline subtraction using robust local regression estimation

E.A. Ustinov 195 Adjoint sensitivity analysis of radiative transfer equation: temperature and gas mixing ratio weighting functions for remote sensing of scattering atmospheres in thermal IR

M.J. Gander and **A.H. Karp** 213 Stable computation of high order Gauss quadrature rules using discretization for measures in radiation transfer

Note

J.R. Gillis, A. Goldman, G. Stark and **C.P. Rinsland** 225 Line parameters for the $A^2\Sigma^+ - X^2\Pi$ bands of OH

231 Publisher's Note

NUMBER 3

A. Borysow, U.G. Jørgensen and **Y. Fu** 235 High-temperature (1000–7000 K) collision-induced absorption of H_2 pairs computed from the first principles, with application to cool and dense stellar atmospheres

R. Ciuryło, A.S. Pine and **J. Szudy** 257 A generalized speed-dependent line profile combining soft and hard partially correlated Dicke-narrowing collisions

C. Claveau, A. Henry, D. Hurtmans and **A. Valentin** 273 Narrowing and broadening parameters of H_2O lines perturbed by He, Ne, Ar, Kr and nitrogen in the spectral range 1850–2140 cm^{-1}

O. Axner, P. Kluczynski and **Å.M. Lindberg** 299 A general non-complex analytical expression for the *n*th Fourier component of a wavelength-modulated Lorentzian lineshape function

T. Viik 319 The Pomraning phase function: how good is it?

H.K. Roscoe, J.G.T. Hill, A.E. Jones and **A. Sarkissian** 327 Improvements to the accuracy of zenith-sky measurements of total ozone by visible spectrometers II: use of daily air-mass factors

H.K. Roscoe, A.J. Charlton, D.J. Fish and **J.G.T. Hill** 337 Improvements to the accuracy of measurements of NO_2 by zenith-sky visible spectrometers II: errors in zero using a more complete chemical model

NUMBER 4

A. Alonso-Medina, C. Colón and **C. Herrán-Martinez** 351 Experimentally determined transition probabilities for lines of Pb I and the 2203.5 Å line of Pb II

M. D. Di Rosa and **R.L. Farrow** 363 Temperature-dependent collisional broadening and shift of Q-branch transitions in the $B \leftarrow X(0,0)$ band of CO perturbed by N_2, CO_2 and CO

S.H. Fakhr-Eslam, G.D. Sheldon, P.M. Sinclair, J.R. Drummond and **A.D. May** 377 Anomalous broadening and shifting in D_2 and D_2–He mixtures

F. Liu, G.J. Smallwood and **Ö.L. Gülder** 401 Application of the statistical narrow-band correlated-k method to non-grey gas radiation in CO_2–H_2O mixtures: approximate treatments of overlapping bands

J.R. Pardo, E. Serabyn and **J. Cernicharo** 419 Submillimeter atmospheric transmission measurements on Mauna Kea during extremely dry El Niño conditions: implications for broadband opacity contributions

K.G. Gribanov, V.I. Zakharov, S.A. Tashkun and **Vl.G. Tyuterev** 435 A new software tool for radiative transfer calculations and its application to IMG/ADEOS data

E. Mehdizadeh, J.I. Lunine and **G.H. Atkinson** 453 Intracavity laser spectroscopy with an ion-doped, solid-state Tm^{3+} : YAG laser

W.E. Blass, L. Jennings, A.C. Ewing, S.J. Daunt, M.C. Weber, L. Senesac, S. Hager, J.J. Hillman, D.C. Reuter and **J.M. Sirota** 467 Absolute intensities in the v_7 band of ethylene: tunable laser measurements used to calibrate FTS broadband spectra

C.O. Laux, R.J. Gessman, C.H. Kruger, F. Roux, F. Michaud and **S.P. Davis** 473 Rotational temperature measurements in air and nitrogen plasmas using the first negative system of N_2^+

NUMBER 5

J.A. Fedchak and **J.E. Lawler** 483 Ar II branching ratios between 200 and 230 nm

H.M. Park and **T.Y. Yoon** 489 Solution of inverse radiation problems using the Karhunen–Loève Galerkin procedure

J.-J. Plateaux, L. Regalia, C. Boussin and **A. Barbe** 507 Multispectrum fitting technique for data recorded by Fourier transform spectrometer: application to N_2O and CH_3D

M. Caldas and **V. Semião** 521 A new approximate phase function for isolated particles and polydispersions

G.J. Fiechtner and **J.R. Gord** 543 Absorption and the dimensionless overlap integral for two-photon excitation

L.H. Liu and **H.P. Tan** 559 Inverse radiation problem in three-dimensional complicated geometric systems with opaque boundaries

J. Moret-Bailly 575 Influence of the time-coherence of light on the absorption lineshapes of low-pressure gases

S.A. El-Wakil, M.A. Abdou and **A. Elhanbaly** 583 On the solution of Spencer–Lewis equation in an infinite medium

R. Mittal, Vandana and **M. Singh** 593 L X-ray fluorescence cross-sections for elements $40 \leq Z \leq 92$ at energies 2–116 keV (a computer program 'LCSGEN')

NUMBER 6

Y. Sivathanu, J. Lim and **R. Joseph** 611 Statistical absorption tomography for turbulent flows

G. Baldacchini, F. D'Amato, G. Buffa, O. Tarrini, M. De Rosa and **F. Pelagalli** 625 Temperature dependence of foreign gas broadening and shift of the aQ(9,9) transition line of ammonia

A. Siems, F.R.T. Luna and **A.G. Trigueiros** 635 Weighted oscillator strengths and lifetimes for the Si IV spectrum

L.H. Coutinho and **A.G. Trigueiros** 643 Weighted oscillator strengths and lifetimes for the Si XI spectrum

M.R. Bassford, C.A. McLinden and **K. Strong** 657 Zenith-sky observations of stratospheric gases: the sensitivity of air mass factors to geophysical parameters and the influence of tropospheric clouds

A. Barbés, M.A. Gigosos and **M.A. González** 679 Analysis of the coupling between impact and quasistatic field mechanisms in Stark broadening

R.J.D. Spurr, T.P. Kurosu and **K.V. Chance** 689 A linearized discrete ordinate radiative transfer model for atmospheric remote-sensing retrieval